

S/142/60/000/010/009/012
A161/A030

Some Peculiarities of the Kinematics of Tube Rolling in Round Passes

tional lead coefficient that is found analytically, or on special diagrams (Fig. 1). The effect of some factors on the lead has been observed in automatic mills, e.g. the lead distribution over the pass width (Fig. 3) - with the maximum at the apex, dropping to zero at the point where the roll diameter equals the rolling diameter (where the velocity of tube and roll are equal). Lag instead of lead takes place over the remaining portions of the pass width (i.e. the velocity of the roll exceeds the velocity of the tube). Some data prove that lead is higher in the first passings in automatic mills than in the following. An important conclusion is made for practical work - provided that the grip is ensured, increased compression of the tube reduces the possible slip of rolls in automatic mills. Variation of the lead from the front to the rear end of tubes in both passings, higher at the front ends (Fig. 4) is explained by the variation of the friction factor. Salt loaded into the front tube portion was stated to reduce the friction factor between the tube and the mandrel and to increase lead, and the increased friction factor between the tube and the rolls increased lead due to the drop in temperature at the front tube end. The effect of the relation of the tube and roll diameter is shown in (Fig. 5) ($\frac{d_k}{D_0}$), and the effect of the tube wall thickness in (Fig. 6). There are 6 figures and 3 Soviet references.

Card 2/6

S/148/60/000/010/009/018
A161/A030

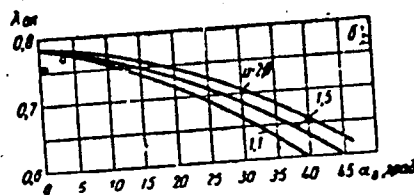
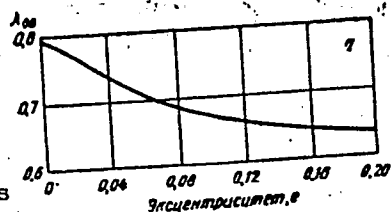
Some Peculiarities of the Kinematics of Tube Rolling in Round Passes

ASSOCIATION: Dnepropetrovskiy metallurgicheskii institut (Dnepropetrovsk Metallurgical Institute)

SUBMITTED: November 10, 1959

Figure 1:

Diagram for determining the coefficient in formula (1): a - for oval passes; b - for round passes with different $u = \frac{r}{R}$ relation. At $u = 2.0$ the curve applies also for round passes with a straight outlet.



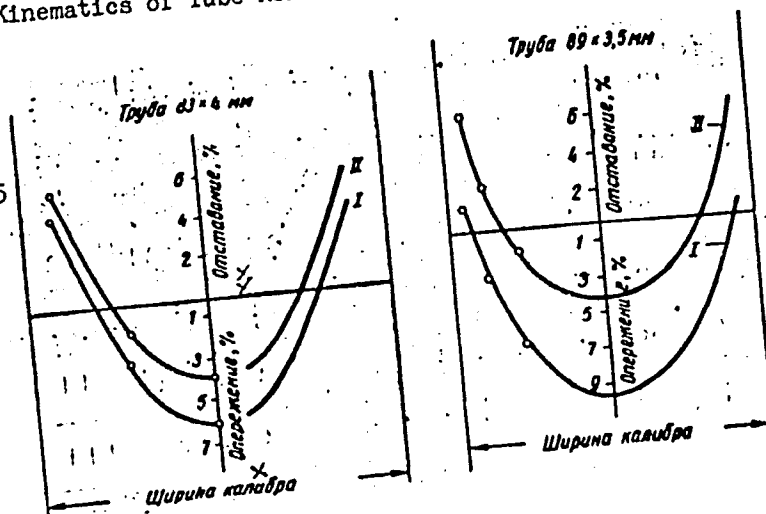
Card 3/6

S/148/60/000/010/009/018
A161/A030

Some Peculiarities of the Kinematics of Tube Rolling in Round Passes

Figure 3:

Lead distribution across the pass. Left - 83 x 4 mm tube; right - 89 x 3.5 mm tube. x - lead (%), xx - lag (%). I - first passing; II - second passing.



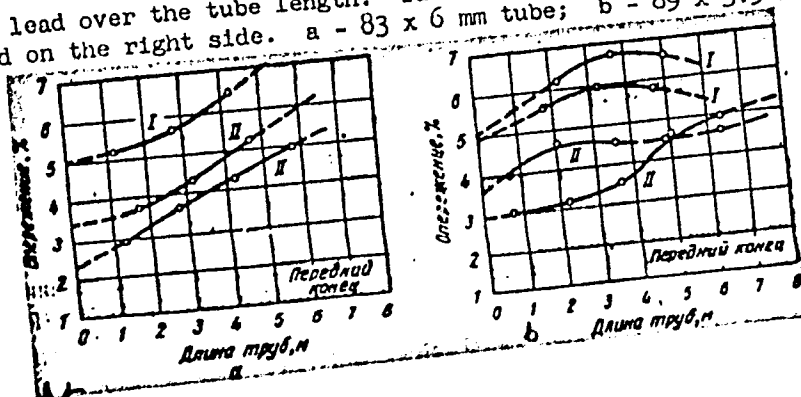
Card 4/6

S/148/60/000/010/009/018
A161/A030

Some Peculiarities of the Kinematics of Tube Rolling in Round Passes

Figure 4:

Variation of lead over the tube length. Tube length in meters up to 8 m; lead in %. Front end on the right side. a - 83 x 6 mm tube; b - 89 x 3.5 mm tube.



Card 5/6

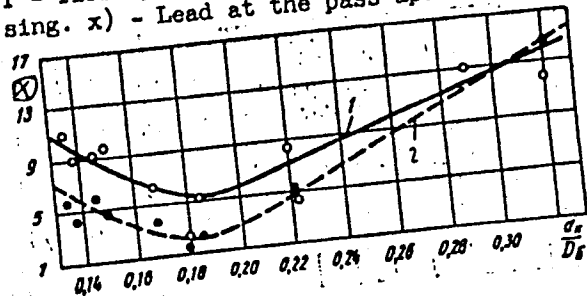
S/148/60/000/010/009/018
A161/A030

Some Peculiarities of the Kinematics of Tube Rolling in Round Passes

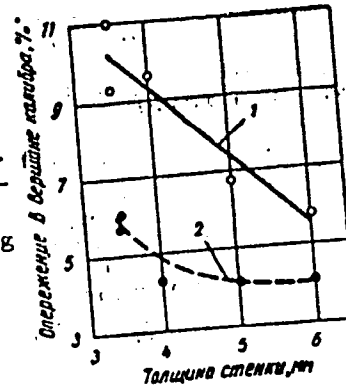
Figure 6:

Figure 5:

Variation of lead with the $\frac{d_k}{D_0}$ ratio
1 - first passing; 2 - second passing. x - Lead at the pass apex.



The effect of wall thickness (3-6 mm) on lead at the pass apex (%).
1 - first passing; 2 - second passing



Card 6/6

CHEKMAREV, A.P., akademik; VATKIN, Ya.L., doktor tekhn. nauk; KHANIN, M.I.,
inzh.; KUSHCHINSKIY, G.N., inzh.

Piercing on mills with oblique rolls and axial billet support.
Stal' 24 no.12:1113-1116 D '64. (MIRA 18:2)

1. AN UkrSSR (for Chekmarev).

VATKIN, Ya. L., kand. tekhn. nauk; BERDYANSKIY, M. G., inzh.;
BRODSKIY, I. I., inzh.; DRUYAN, V. M., inzh.; KOLPOVSKIY, N. M.,
inzh.; KAGARLITSKIY, A. S., inzh.; LUDENSKIY, A. M., inzh.

Fixed mandrels on automatic mills. Nauch. trudy. DMI no. 48:
174-185 '62. (MIRA 15:10)

(Pipe mills)

VATKIN, YA.L.

PHASE I BOOK EXPLOITATION NOV/3126

Mezhuovskaya nauchno-tekhnicheskaya konferentsiya za temu:

"Sovremennyye dostizheniya prokatochnogo proizvodstva."

Trudy... (Transactions of the Intercollegiate Scientific and Technical Conference on Recent Achievements in the Rolling Industry) Leningrad, 1958. 251 p. 1,000 copies printed.

Sponsoring Agencies: Leningradskiy politekhnicheskii institut im. M.I. Kalinina, Nauchno-tekhnicheskoye obshchestvo mashinostroyeniya, Leningradskoye otdeleniye, and Nauchno-tekhnicheskoye obshchestvo metallurgov, Leningradskoye otdeleniye.

Resp. Ed.: V.S. Zaimov, Doctor of Technical Sciences, Professor; Ed.: M.M. Pavlov.

PURPOSE: These proceedings of the conference are intended for specialists in the rolling industry.

COVERAGE: The articles of this collection cover various theoretical and practical problems of rolling, such as: pressure, spread, efficiency of rolls, determination of deformation, forces required, pass design, optimum conditions for rolling, experiences of various plants, modernization of equipment, aluminum-clad steel, and rolling of nonferrous metals. No personalities are mentioned. References appear after each article.

Benyakovskiy, M.A. [Ural'skiy nauchno-issledovatel'skiy institut Chernykh metallov (Ural Scientific Research Institute of Ferrous Metals), Sverdlovsk] Forces of Deformation of Metal and Automation of Band Thickness Control in Cold Rolling 184

Meleshko, V.I., and V.M. Saf'yan. [Institut Chernoy metallurgii AN USSR (Institute of Ferrous Metallurgy, AS USSR)] Investigation of Energy Consumption, and Action of Forces in a Continuous Hot-rolling Sheet Mill 197

Kuznetsov, I.D. [Zavod imeni Il'icha (Plant im. Il'ich)] Relation Between Geometric and Weight Tolerances of Plate Steel 208

Bogoyavlenskii, K.M. [Leningradskiy politekhnicheskii institut im. M.I. Kalinina (Leningrad Polytechnical Institute im. M.I. Kalinin)] Bending Forces in a Structural Mill 214

Chekmarov, A.P., Ya.L. Vatin, and D.M. Litinskiy. [Dnepropetrovskiy metalurgicheskii institut] (Dnepropetrovsk Metallurgical Institute)] Wall Thickness Variation of Large Diameter Pipe 223

CHEKMAREV, A.P., akademik; VATYIN, Ya.L., doktor tekhn. nauk; KHANIN, M.I.;
KUSHCHINSKIY, G.N.

Accelerating the piercing process on inclined roll mills using
axial support of the blank. Met. i gornorud. prom. no.5:34-36
S-0 '64. (MIRA 18:7)

1. Akademiya nauk Ukrainskoy SSR (for Chekmarev).

VATKIN, Ya.L.; DRUYAN, V.M.

Measuring forces acting on the mandrel of an automatic mill. Izv.
vys. ucheb. zav.; chern. met. 7 no.3:118-123 '64. (MIRA 17:4)

1. Dnepropetrovskiy metallurgicheskiy institut.

VATKIN, Ya. L. Doc Tech Sci -- "Principles of the theory of pipe-rolling in
Circular
~~Round~~ calibers." Len, 1960 (Min of Higher and Secondary Specialized
Education USSR. Len Polytechnic Inst im M. I. Kalinin). (KL, 1-61, 190)

-151-

VATKIN, Ya.L.

Peculiarities in the kinematics of pipe rolling in circular
grooves. Izv. vys. ucheb. zav.; Chern. met. no.10:106-113
'60. (MIRA 13:11)

1. Dnepropetrovskiy m tallurgicheskiy institut.
(Pipe mills) (Machinery, Kinematics of)

8/137/61/000/003/015/069
A006/A101

AUTHORS: Vatkin, Ya.L., Kronfel'd, I.D., Rozhnov, S.V.

TITLE: Investigation of the difference in the walls of pipes produced by automatic methods

PERIODICAL: Referativnyy zhurnal. Metallurgiya, no.3, 1961, 34, abstract 3D272 ("Tr. Nauchno-tekhn. o-va Chern. metallurgii", v.15, 1959, 67-82)

TEXT: An investigation was made to determine the nature and mechanism of the formation of transverse differences in the walls of sleeves; these differences were measured on all stages of pipe production on an automatic machine. It was established that the basic condition for the formation of differences in the walls of sleeves, is vibrations of the blank, the core with the mandrel, and of the whole system. It was found that the wall difference of the pipes after working on the automatic mill increased considerably in comparison with the sleeves. As a result of the peculiar contour of the automatic mill groove, the latter promotes the formation of symmetrical wall difference. After passing the flattening mill, an abrupt decrease of the wall difference was observed. The calibration mill does not considerably affect the magnitude of wall difference, since the

✓

Card 1/2

Investigation of the difference ...

9/137/61/000/003/015/069
A006/A101

thickness of the pipe is slightly increased. The longitudinal difference of wall results from the temperature factor of rolling. The temperature of the rear of the sleeve to be pierced is by 70 to 100°C higher than the temperature of the front end. To eliminate and reduce the longitudinal wall difference, a device was developed and introduced on to the automatic machine, which regulates the gap between the rolls during the rolling process.

Yu. M.

[Abstracter's note: Complete translation.]

Card 2/2

VATKIN, Ya, L., kand. tekhn. nauk; SHEVCHENKO, A.A, doktor tekhn. nauk;
KRONFEL'D, I.D., inzh.; ROZHNOV, S.V., inzh.; CHEKMAREV, I.A., inzh.

Investigating the technology of pipe rolling on continuous mills
with long mandrels. Obr. met. davl. no.5:143-164 '59.
(MIRA 13:3)

1.Dnepropetrovskiy metallurgicheskiy institut i Vsesoyuznyy nauchno-
issledovatel'skiy trubnyy institut.
(Rolling (Metalwork))

VATKIN, Ya.L., kand.tekhn.nauk

Metal pressure on rolls in pipe rolling without mandrels. Obr.
(MIRA 12:10)
met.davl. no.3:203-217 '54.

1. Dnepropetrovskiy metallurgicheskiy institut im. I.V.Stalina.
(Rolling mills)

VATKIN, Y.A.L.

PLATE I BOOK EXPLANATION 007/2721

25(1)

Garbina metallov deviziyam; sbornik stat'ey, Vyp. 5 (Metal Forming).
Collection of Articles, No. 5) Moscow, Metallurgizdat, 1959. 137 p.
5,000 copies printed.

Scientific Mts. I.D. Al'tovskiy, Candidate of Technical Sciences; M. of
Publishing House: E.A. Valov; Tech. Mts. A.I. Ershov.

REMARKS: This collection of articles is intended for technical personnel and
scientific workers in the metallurgical and machinery-construction industries.

CONTENTS: This collection of articles deals with problems of rolling and tube
manufacture. Results of research done on rolling mills and new methods of deter-
mining basic manufacturing parameters in the production of tubes and other
rolled shapes are presented. Methods of analyzing the kinematics of processes
in helical piercing mills and rolling mills by means of motion pictures are
discussed. Also discussed are several phenomena associated with tube rolling.
No generalities are mentioned. References follow several of the articles.

114
Plyubinskiy, G.A. [Candidate of Technical Sciences, Yeysenskiy Institute for
Technical Sciences, Leningrad]. Investigation of the Kinematics of the Rolling
Process in Helical Piercing Mills (Doctoral Dissertation, Leningrad, 1958).
This article deals with the kinematics of the rolling process in helical
piercing mills. The kinematics of the process is investigated by means of motion pictures.
The kinematics of the process is discussed, and experiments on piercing and
helical mills are described. Results are shown in tables and diagrams.

129
Plyubinskiy, G.A., N.D. Olyin [Candidates of Technical Sciences], and E.O. Boder
[Engineer]. Investigation of the Kinematics of the Rolling Process in Helical
Piercing Mills (Doctoral Dissertation, Leningrad, 1958). This article deals with an experimental investigation of the use of stainless
steel with a high deformation coefficient in piercing processes. Results
show an increase in the rate of production and greater economy of materials.

135
Vatkin, Y.A.L. [Candidate of Technical Sciences]; A.I. Shvachenko [Doctor of
Technical Sciences]; and A.I. Panchal'd, S.F. Babinov, and A.I. Shvachenko
[Engineers]. Investigation of the Kinematics of the Rolling Process in Helical
Piercing Mills (Doctoral Dissertation, Leningrad, 1958). This article deals with an experimental investigation of the use of stainless
steel with a high deformation coefficient in piercing processes. Results
show an increase in the rate of production and greater economy of materials.

159
Babinov, S.F. [Candidate of Technical Sciences], and P.F. Leryev [Engineer].
Investigation of the Kinematics of the Rolling Process in Helical Piercing Mills
(Doctoral Dissertation, Leningrad, 1958). This article deals with an experimental investigation of the use of stainless
steel with a high deformation coefficient in piercing processes. Results
show an increase in the rate of production and greater economy of materials.

175
Babinov, S.F. [Candidate of Technical Sciences], and O. Ya. Osh [Engineer].
Investigation of the Kinematics of the Rolling Process in Helical Piercing Mills
(Doctoral Dissertation, Leningrad, 1958). This article deals with an experimental investigation of the use of stainless
steel with a high deformation coefficient in piercing processes. Results
show an increase in the rate of production and greater economy of materials.

179
Babinov, S.F. [Candidate of Technical Sciences], and O. Ya. Osh [Engineer].
Investigation of the Kinematics of the Rolling Process in Helical Piercing Mills
(Doctoral Dissertation, Leningrad, 1958). This article deals with an experimental investigation of the use of stainless
steel with a high deformation coefficient in piercing processes. Results
show an increase in the rate of production and greater economy of materials.

Card 6/7

VATKIN, Ya. L.

9.

NOTIFICATION

S0V/3611

Metallurgicheskoy Institut

Dnepropetrovsk. Metallurgicheskyy zavod.
Dneprobolshe metallov daviyem (Metal Forming) Kharkov, Metallurg-
izdat, 1960. 326 p. (Series: Its: Nauchnyye trudy, vyp. 39)
2,100 copies printed.

2,100 copies printed.

PURPOSE: This collection of articles is intended for technical and scientific personnel in metallurgy and in mechanical engineering. It will also be of interest to designers of rolling equipment.

COVERAGES: This collection of articles treats the theory of rolling. It discusses such factors as the total and the unit pressures of the work on rolls, moments of rolling, forward slip, spread, etc. It also includes of casts obtained from investigation, rail quality, rolling of steel from sheets, and other problems. No personalities are mentioned. References follow each article.

Chokmarov, A.P. [Academician of the USSR Academy of Sciences]. Experimental Investigation of Distribution of Unit Pressures on a Contact Surface in Rolling in Plain Balls. *Tr. Vsesoyuznogo Nauchno-Issledovatskogo Tsentra "Problemy Tverdogo Tela"* (Engl. transl. of *Problems of Solid State Physics*), 1966, No. 1, pp. 10-14.

The investigation was carried out to investigate the effect of measuring unit pressure on the contact surface, and to obtain, by measurement, data on distribution of unit pressure of strips having various widths during rolling with various drafts and widths.

initial thicknesses and widths. Experimental Investigation of
Chetnarev, A. P., and P. I. Klimenko. 30
Distribution of Unit Pressures on the Contact Surface During
Rolling in Grooved Rolls
Mechanical Sciences.

Engineer
Rolling in Grooved Rails

Chernomarov, A. P., and **Rudov, V. S.** [Candidate of Technical Sciences, Institute of Chemistry Metallurgy, M. G. S. S. R. and Vsesoyuznyy nauchno-issledovatel'skiy tsentr] Institut - Institute of Ferrous Metallurgy, Institute of the Ukrainian SSR, and the All-Union Scientific Center of the Academy of Sciences of the USSR.

The authors are indebted to the Academy of Sciences at Moscow, the Contact Survey Scientific-Research Institute for Rolling [Contact] Rolling Union Scientific-Research Institute for Rolling [Rolling] and Pressure on Rolls in Pilger Mills for measuring pressure on rolls during rolling of pipes. The authors present new methods for determining pressure on rolls in a pilger mill, for rolling pipes with 219, 273 and 285 mm diameters, and for determining the instant area of contact.

Vatkin, Ya. K. [Candidate of Technical Sciences]. Pressure on Rolling in Rotary Rolling of Tubes on a Short Mandrel. *Other contains experimental data on the total and unit diameters*, 1964, 10 p. (Russian) 73

The author compares experimental pressures with the results obtained through using formulas the

author derived:
Chisomarov, A. P., V. M. Kalyaeva, V. I. Meresenko, N. I. Chisomarov, and S. N. Rabinovich [E-gineer]. Pressure on
V. D. Chukharenko, and results of

V. B. Gerasimov
Rolls in Slabbing Mill
The authors describe the methods, instruments, and results of an investigation carried out at the "Saporshtal'" mill on horizontal and vertical rolls at slab rolling.

horizontal and vertical directions. Experimental in-
formation in the field of the dynamics of the rolling
of a sphere on a horizontal surface is presented in
[1].

Sar'yan, M. A. *Investigation on the Laver-Kim Process*. Investigation on the above subject, and the author describes investigation on rolls in coil rolling of steel gives the total pressure on rolls at various drafts. sheets 1, 2, 3, and 4 mm thick at various drafts. [Institute of Technical Sciences]. 127

Sheets 1, 2, 3, 4, and N.M. SAN-XO [Cambridge]
Chekmarev, A. P., and N.M. SAN-XO
Forward Slip in Shape Rolling of Tensile- and Compressive-
Resistance Methods of Testing, in Experiments with

The author describes methods of determining the shape of the slip in the following way: The method is based on experiments. The author describes methods of determining the shape of the slip in the following way: The method is based on experiments. The author describes methods of determining the shape of the slip in the following way: The method is based on experiments.

[illegible]

contact area in transverse direction

14

PHASE I BOOK EXPLOITATION NOV/3611

Dnepropetrovsk. Metallurgicheskii Institut

Obrabotka metallov daviyem (Metal Forming) Khar'kov, Metallurgizdat, 1960. 326 p. (Series: Ita: Nauchnyye trudy, vyp. 39) 2,100 copies printed.

Ed.: A.P. Chumarev; Ed. of Publishing House: R.A. Belina; Tech. Ed.: S.P. Andreyev.

PURPOSE: This collection of articles is intended for technical and scientific personnel in metallurgy and in mechanical engineering. It will also be of interest to designers of rolling equipment.

COVERAGE: This collection of articles treats the theory of rolling. It discusses such factors as the total and the unit pressures of the work on rolls, moments of rolling, forward slip, spread, etc. It also includes results obtained from investigations of rail quality, rolling of cast iron sheets, and other problems. No personalities are mentioned. References follow each article.

Chumarev, A.P., and M.I. Guburug (Candidate of Technical Sciences). Deformation of Metal in the Manufacture of Pipe. The authors present a method for the determination of local (layer) deformations for any element of pipe in the focus of deformation, at various manufacturing processes (rolling, drawing, rotary rolling) in order to determine the most suitable process for given conditions.

Chumarev, A.P., Ya.S. Finkel'shteyn (Candidate of Technical Sciences), and I.N. Lul'man (Engineer). Kinematics of the Process of Helical Rolling. The authors try to explain in a new way a number of phenomena occurring during helical rolling, the kinematics of the process, magnitude and direction of forces in the contact area, slip of metal, and the ways of intensification of the process of helical rolling.

Galekin, M.P. (Candidate of Technical Sciences). Effect of Size and Shape of Triaxial Roll Passes on the Quality of Rails. The article deals with experiments undertaken by the author in order to determine the effect of the conditions of deformation on the properties of cast iron sheets. The results of rolling on elimination of defects in rails. The final recommendations concerning the shape passes and magnitude of drafts are presented.

Chumarev, A.P., A.P. Grig'yar (Candidate of Technical Sciences), and V.G. Zhuk (Engineer). Cold Rolling of Annealed Cast Iron Sheet. The authors describe process of removing defects on cast iron sheets either by hot or by cold rolling.

Nikol'senko, Ye.G. (Engineer), S.I. Vitenson (Candidate of Technical Sciences), and L.D. Stetsko (Engineer). Effect of Cold Deformation on the Properties of Cast Iron Sheets. The effect of cold hardening recrystallization, number of passes, and amount of drafts on the ductility and strength of cast iron sheets is discussed.

Vatkin, Ya.L. (Candidate of Technical Sciences), I.D. Krontel'd, S.V. Rozhnov, and I.A. Chumarev (Engineer). Investigation of Pressure in the Rolls and Power Consumption at Rolling Pipe in Continuous Rolling Mill with Long Mandrel. The authors discuss the distribution of additional alloy effect of wall thickness and rolls. They give formulas for determination of unit and total roll pressure, and for power consumption in continuous rolling.

Chumarev, A.P., and L.Ye. Kapurov. Experimental Investigation of Unit Pressure in Hot Rolling. The authors conducted a laboratory investigation in the Dnepropetrovsk Metallurgical Institute on determination of unit pressure and distribution pattern of the unit pressure in the contact area at rolling of steel and, of various thickness and with various drafts.

Vatkin, Ya. L.

137-1957-12 23785

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 12, p132 (USSR)

AUTHOR: Vatkin, Ya. L.

TITLE: On the Reduction of Wall-Thickness Variations in Pipes (Ob umen'shenii raznostennosti trub)

PERIODICAL: V sb.: Ratsionalizatsiya profiley prokata. Moscow, Profizdat, 1956, pp 274-277

ABSTRACT: In order to eliminate longitudinal thickness variations in the walls of thin-walled pipes (P) with negative allowances, during the rolling process, a special adjustment regulator (AR) was developed for the purpose of changing the clearance between the rollers in order to compensate for the decrease in the wall thickness of the rear end of the P. The AR has a wedge on a traverse beam which is connected to a pneumatic cylinder by means of linkages and levers. When the P enters the rollers, the cylinder is automatically actuated, the levers retract and withdraw the wedge, thereby increasing the clearance between the rollers. The smooth withdrawal of the wedge is ensured by a special damper. Such AR is installed on the automatic mill of the Lenin pipe-rolling plant in

Card 1/2

137 1957 12 13785

On the Reduction of Wall-Thickness Variations in Pipes

Dnepropetrovsk; it works automatically and requires no special attention. As a result of the employment of the AR the longitudinal variations in the wall-thicknesses of P's have decreased from 0.3-0.5 to 0.1-0.15 mm.

Ye. T.

1. Pipes-Characteristics
2. Pipes-Production
3. Pipes-Wall uniformity methods

Card 2/2

VATKIN, Ya.L., kandidat tekhnicheskikh nauk, dotsent; KRONFEL'D, I.D., inzhener;
ROZHNOV, S.V., inzhener; CHERMAREV, I.A., inzhener.

Determining pressure and tension in pipe rolling on a continuous mill
with long mandrel. Stal' 16 no.3:229-235 Mr '56. (MLRA 9:7)

1.Dnepropetrovskiy metallurgicheskii institut i Vsesoyuznyy nauchno-
-issledovatel'skiy trubnyy institut.
(Rolling (Metalwork)) (Pipes, Steel)

VATKIN, Ya.L., kand.tekhn.nauk; KRONFEL'D, I.D., inzh.; ROZHNOV, S.V.,
inzh.

Investigating the nonuniformity of wall thickness in the
automatic method of tube production. Trudy NTO Chern.met.
15:67-82 '59. (MIRA 13:7)
(Rolling(Metalwork)—Quality control)
(Tubes)

VATKIN, Ya.I., kand.tekhn.nauk

Pressure on the rolls in pipe rolling on short mandrels. Nauch.
trudy DMI no.39:72-88 '60. (MIRA 13:10)
(Pipe mills)

VATKIN, Ya.L., kand.tekhn.nauk; KRONFEL'D, I.D., inzh.; CHEKMAREV, I.A.,
inzh.; ROZHNOV, S.V., inzh.

Investigating pressure on the rolls and power consumption in tube
rolling on a continuous mill with long mandrels. Nauch. trudy DMI
no.39:252-277 '60. (MIRA 13:10)
(Pipe mills--Electric driving)

S/137/61/000/007/044/072
A060/A101

AUTHOR: Vatkin, Ya. L.

TITLE: Pressure upon rolls in pipe rolling on a short mandrel

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 7, 1961, 37, abstract 7D295
("Nauchn. tr. Dnepropetr. metallurg. in-ta", 1960, no. 39, 73-88)

TEXT: Formulae are derived for calculating the mean specific pressure in the zones of compression and reduction of the wall in the course of rolling pipe on a short mandrel. To check the theoretical data, measurements of pressure on the rolls of the automatic mill 140 have been carried out. Comparison has shown a satisfactory agreement of theoretical and experimental data, thus supporting the practical applicability of the formulae for calculating the specific pressure.

Yu. Manegin

[Abstracter's note: Complete translation]

Card 1/1

S/137/61/000/007/043/072
A060/A101

AUTHORS: Vatkin, Ya. L.; Kronfel'd, I. D.; Rozhnov, S. V.; Chekmarev, I.A.

TITLE: Investigation of the pressure on the rolls and the energy expenditure in the rolling of pipes in a continuous mill on a long mandrel

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 7, 1961, 37, abstract 7D294 ("Nauchn. tr. Dnepropetr. metallurg. in-t", 1960, no. 39, 252-277)

TEXT: The distribution of the metal pressure upon the rolls of mill stands for various types of groovings is investigated. As the pipe enters the following stands the pressure in the preceding ones is reduced. At steady state the pressures on the rolls in all the stands of the mill attain their minimum values but they are not equal to each other. The maximum pressure upon the rolls registered in the course of measurements was 72 tons while rolling pipes 59 x 37.5 of steel 15XМ (15KhM) (III-rd stand). It was established that the pressure on the rolls increases with the decrease in pipe thickness and with the increase of the content of the alloy elements in the steel. A formula is derived for determining the specific pressure while rolling pipe on long mandrels and the pressure on the rolls while rolling 59 x 3.25 - 3.5 pipes of steel 10 is calculated. The

Card 1/2

S/137/61/000/007/043/072
A060/A101

Investigation of the pressure ...

comparison of calculated and experimental data indicates the practical applicability of the proposed formulae. The maximum values of energy expenditure for pipes with small wall thickness vary between the limits of 18 - 19 kwh/ton for various groovings.

Yu. Manegin

[Abstracter's note: Complete translation]

Card 2/2

CHEKMAREV, Aleksandr Petrovich, kand.tekhn.nauk; VATKIN, Yakov Leybovich;
NOSAL', V.V., red.; VLADIMIROV, Yu.V., red. izd-va; ATTOPOVICH,
M.K., tekhn. red.

[Principles of pipe rolling in round grooves] Osnovy prokatki trub
v kruglykh kalibrakh. Moskva, Metallurgizdat, 1962. 221 p.
(MIRA 15:7)

(Pipe mills)

ACCESSION NR AM1029020

BOOK EXPLOITATION

S/

Vatkin, YAKOV Leybovich; Plyatskovskiy, Oskar Aleksandrovich; Vashchenko,
Yuriy Ignat'yevich

Seamless tubes; a handbook (Besshovny*ye truby*; spravochnoye rukovodstvo dlya
rabochikh), Moscow, Metallurgizdat, 1963, 179 p. illus., biblio. Errata
slip inserted. 2,700 copies printed.

TOPIC TAGS: seamless tube, pilgrim mill, continuous mill, extrusion, cold rolling,
drawing, reduction mill

PURPOSE AND COVERAGE: The book considers the various methods of producing seamless
tubes in a broad assortment. Handbook data are given on the technology of fabri-
cating tubes on automatic, pilgrim, and continuous mills and also by extrusion,
cold rolling, and drawing. Information is given on setting the grooves of various
mills and the basic characteristics of the equipment. The various types of defects
and methods of eliminating them are noted. There is a description of safety
measure in tube rolling shops and examples of automation of certain equipment are
given. The book is intended as a manual for workers and foremen of tube shops and
can also be useful for students in metallurgical technicums when studying rolling.

Cord-3/3

VATKIN, B. G.

"Extraction of Substances of Barbo-Illy (1966) from the Animalia L. (1966)."
Cand Biol Sci, Leningrad First Medical Inst, 1966, 1, 3. 115-116. 115.
(Referativny Zhurnal--Zhurnal, Moscow, No 2, Jan 67)

SO: Sum 166, 1 Aug 1966

MATVEYEV, Yuriy Mikhaylovich; AGRE, Valentin L'vovich; VATKIN,
Yuriy Yakovlevich; KRICHEVSKIY, Yevgeniy Markovich; RYMOV,
V.A., red.

[Welded pipe; workers' handbook] Svarnye truby; spravochnoe
rukovodstvo dlia rabochikh. Moskva, Izd-vo "Metallurgiya,"
1964. 188 p. (MIRA 17:5)

AGRE, Valentin L'vovich; VAIKIN, Yuriy Yakovlevich; RYMOV, V.A., red.;
LANOVSKAYA, M.R., red. izd-va; KLEYMAN, M.R., tekhn. red.

[Steel pipes; manual for training qualified workers under operating
conditions] Stal'nye truby; posobie dlia podgotovki kvalifitsirovannykh
rabochikh na proizvodstve. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po
cherno i tsvetnoi metallurgii, 1961. 189 p. (MIRA 14:8)
(Pipe, Steel)

KHROMOV-BORISOV, N.V.; VATKINA, E.G.

A method of producing 6-aminoanabasine and lupinine from non-separated mixtures of anabasine and lupinine. Zhur.ob.khim.25 no.6:1161-1162 Je'55. (MLRA 8:12)

1. Leningradskiy meditsinskiy institut
(Anabasine) (Lupinine)

... H₂O on a steam bath ...

BC

Determination of sensitivity of certain colour reactions for aldehydes and ketones. V. M. PLAVNOVSKAYA and S. F. VAYNSKA (J. Appl. Chem. Russ., 1967, 40, 866-869).—The lowest amounts detectable with $(NH_4)_2MoO_4$, and 80% HCl are: PhCHO 0.0005, citral 0.005, cinnamalal 0.05, cinnaldehyde, cinnaminaldehyde, C_6H_5CHO , chloral hydrate, and $COMe_2$, o-S, o-OH- C_6H_4CHO 1, and $COMeEt$ and $COPhEt$ 5%. The colorations given with phosphomolybdic acid and aq. NH_3 or $m-C_6H_4(NO_2)_3$ and KOH, are less intense.

R. T.

so

Sensitivity of certain tests for phenols. V. M. Platkovskaya and S. O. Vathina. *J. Applied Chem.* (U.S.S.R.) 10, 202-7 (in German 207) (1937).—Of phosphomolybdic acid, phosphotungstic acid, Millon's reagent and Na nitroprusside, the first is the most sensitive color reagent for phenols; in the presence of NH_4I part in 2,000, (100) of PhOH , $p\text{-C}_6\text{H}_4(\text{OH})_2$ or cresol can be detected. Comps. of mixed function (adrenaline, vanillin, isoeugenol, gunicol, creosol), as well as α - and β -naphthol and thymol, give color reactions with phosphomolybdic acid in the presence of NH_4I ; these comds. do not give a color with phosphotungstic acid. Millon's reagent and Na nitroprusside give colors with only certain phenols; they do not give colors with the above-mentioned comds. of mixed function.

A. A. Polguyny

ASSOCIATE METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND CODERS																										3RD AND 4TH CODERS																									
PROCESSES AND PROPERTIES INDEX																										CHEMICAL ELEMENTS																									
<p>cx</p> <p>Sensitivity of certain color tests for aldehydes and ketones V. M. Platonovskaya and R. G. Vafkina. <i>J. Applied Chem.</i> (U. S. S. R.) 10, 955 (1956) 2 (1957). Reactions for aldehydes and ketones with $(\text{NH}_4)_2\text{MoO}_4$, phosphomolybdic acid and $m\text{-Cl}_2(\text{NO}_2)_2$ were investigated. The most sensitive reaction is that with $(\text{NH}_4)_2\text{MoO}_4$ (1:200,000). In the presence of NH_4OH ketones (except Me_2CO) do not produce color with phosphomolybdic acid. Seven references. A. A. P.</p>																										7																									
ASR-55A METALLURGICAL LITERATURE CLASSIFICATION																										FROM SOURCE																									
1ST AND 2ND CODERS																										3RD AND 4TH CODERS																									

BC

14-3

Sensitivity of colour reactions for phenols.
V. M. PLATKOVA and S. G. VASKINA (J. Appl. Chem. Russ., 1937, 20, 202-207).—Min. concns. of substance giving a detectable blue colour with phosphotungstic acid and aq. NH_3 are: PhOH , o- and p- $\text{C}_6\text{H}_4(\text{OH})_2$, 1:2:3- (I), 1:2:4- (II), and 1:2:5- $\text{C}_6\text{H}_3(\text{OH})_3$ (III), o- $\text{C}_6\text{H}_4\text{OH}$, and isoeugenol 0.0005; cresol and quinal 0.0005; p- $\text{C}_6\text{H}_4\text{OH}$, thymol, and adrenalin 0.005; guaiacol carbonate 0.05; vanillin 0.1; salicylic acid 0.5%. The valn. with phosphotungstic acid and aq. NH_3 are: o- and p- $\text{C}_6\text{H}_4(\text{OH})_2$ and (I) 0.0005; m- $\text{C}_6\text{H}_4(\text{OH})_2$ and (II) 0.005; PhOH 0.5%, and with Millon's reagent: PhOH and cresol 0.0005; o- $\text{C}_6\text{H}_4(\text{OH})_2$ 0.05; (I) 0.5; (III) 5%.

R. T.

Vatkina, V.G.

5

V A method of isolation of 6-aminocanabazine and lupinine from a technical mixture of anabasine and lupinine. N. V. Khromov-Borisov and B. G. Vatkina (Inst. Med. Inst. ~~CH~~ ~~Leningrad~~). Zhur. Obshch. Khim. 25, 1101-2 (1955).

Heating with stirring 50 g. mixed 80% anabasine and 20% lupinine, 30 g. powd. NaNH₂, and 300 g. PhNMe₂ 5 hrs. at 130-5° and 6 hrs. at 140-5°, treatment with ice-H₂O, extn. with Et₂O and distn. of the ext. gave 10.6 g. fraction, b_p 125-8°, and 18.2 g. fraction, b_p 135-95°. The latter fraction gave 16 g. 6-aminocanabazine, m. 109° (from MePh), while the MePh mother liquor gave 2 g. lupinine; the 1st fraction gave 6.8 g. more lupinine and 3.8 g. anabasine. Lupinine recovery was 89%, and the product m. 68°. Also in J. Gen. Chem. U.S.S.R. 25, 1113-14 (1955) (Engl. translation). G. M. Kosolapoff

MA
PM

VATLITSOV, V., obshchestvennyy instruktor (g.Kirov)

Training exercises even on trips. Voen. znan. 41 no.10:18 3 '65.
(MIRA 18:10)

VATLETISOV, V. (Khalturinskiy rayon, Kirovskoy obl.)

Voluntary instructor. Za rul. 20 no.9:18 S '62. (MIRA 15:9)

1. Neshtatnyy korrespondent zhurnala "Za rulem".
(Khalturin--Motorcycles)

VATLETISOV, V. (Sovetsk, Kirovskaya obl.)

City to village. Za rul. 20 no.7:9 J1 '62.

(MIRA 15:7)

1. Neshtatnyy korrespondent zhurnala "Za rulem".
(Sovetsk—Automobile drivers)

RAKHMATULLIN, S. (Birsk); VATLETISOV, V. (Kirov); PAVLOV, A. (Moskva);
RYAZANOV, A. (Sverdlovsk); PARAMONOV, N. (Maykop)

In local organizations of our patriotic society. Za rul.
19 no.10:3 0 '61. (MIRA 14:11)
(Motor vehicles—Societies, etc.)

GOLOVANOV, N., zasluzhennyy master sporta; GURINOV, V.; VATLETISOV, V.,
obshchestvennyy instruktor (Kirov)

Facts, events, people. Kryl.rod. 14 no.7:32-33 J1 '63.
(MIRA 16:9)

(Aerial sports)

OSIPOV, A. (Khar'kov); LIPSKAYA, V. (Sverdlovsk); VATLETSOV, V. (Kirov);
ZATYAMIN, M. (Stavropol', Kuybyshevskoy obl.)

We prepare for the Fifth Congress of the All-Union Volunteer
Society for Assistance to the Army, Air Force, and Navy with
achievements in work, training, and sport. Za rul. 20 no.5:3
My '62. (MIRA 16:4)

1. Starshiy trener Sverdlovskogo avtomotokluba Dobrovol'nogo
obshchestva sodeystviya armii, aviatsii i flotu (for Lipsakaya).
2. Neshtatnyye korrespondenty zhurnala "Za rulem" (for Vatletsov,
Zatyamin).

(Motor vehicles--Societies, etc.)

VATLETISOV, V. (Kirov)

A long race. Za rul. 20 no.12:19 D '62. (MIRA 15:12)

1. Neshtatnyy korrespondent zhurnala "Za rulem".
(Motorcycle racing)

VATLETSOV, V. (Kirov)

Good fortune of a teacher. Za rul. 21 no.3:6 Mr '63.
(MIRA 16:4)

1. Obshchestvennyy korrespondent zhurnala "Za rulem".

(Kirov—Automobile drivers—Education and training)

VATLETSOV, V. (g.Kirov)

Pneumatic rocket "Shkol'nik." Kryl.rod. 12 no.8:26 Ag '61.

(MIRA 14:8)

(Rockets (Aeronautics))--Models)

VATLETISOV, V. (p.Langasy, Kirovskoy oblasti)

A forgotten toy. Prom.koop. 13 no.9:33 S '59.

(MIRA 13:1)

(Stroboscope)

VATKOVSKAYA, YU. V.

Amop'skaya, L. Ye., Gandin, L. S.

807/5e-59-2-23/75

Conference on Applied Climatology (Sovetskoye po priklad-
noy klimatologii)

Meteorologiya i gidrologiya. 1953, No. 2, pp 69 - 70 (USSR)

Between October 27 and 31, 1953 a Conference on Applied Climatology was held at the Glavmetsgeofizicheskaya observatory in Leningrad. The conference was convened upon request of the Glavmetsgeofizicheskaya observatory (Main Administration of the Hydrometeorological Service), 91 institutes participated, among them 8 scientific research institutes of the Hydrometeorological Service, 20 USSR, 17 foreign organizations, and 34 scientific research institutes of various authorities. In all, participation amounted to 754 persons. 22 papers were read. The main theme of the conference was the problem of the determination of the climate of the USSR in the field of applied climatology. The work accomplished in the technique, M. K. Ryumin on the work accomplished in the field of applied climatology of the Northwest of the USSR, Ye. S. Pribludnyaya spots on the method for the purpose of calculating the five cold days of the coldest month of the month, V. G. Vasilov suggested in his paper some principles of the method of which the territory of the USSR should be divided in regions (for the planning of living quarters). V. M. Il'inskiy gave a survey of the requirements made of climatic data in regard of the projecting of protective structures. L. Ye. Anapol'skaya and L. S. Gandin reported on the method of statistical extrapolation developed by them for the determination of the frequency of high wind velocities. M. P. Barabiyev proposed a method for the determination of the gust coefficient based on the spectrum theory of turbulent pulsations. V. A. Ostafeyev gave a survey of the requirements made of climatic data in calculating the loads on buildings. G. I. Chirvinskaya reported on the experience made in the consideration of climate of health resorts in the Caucasus in planning and construction. A. A. Chubukov proposed a method for the analysis of the climate of health resorts based on a generalization of the data of the Latvian health resorts from the point of view of therapeutics. M. K. Ryumin reported on the influence of meteorological conditions of the Caucasian mineral springs. V. V. Fedorenko reported on a climatological investigation for the purpose of determining and streamlining living conditions (hotels, etc.). V. Yu. Milovskiy proposed a survey of the climate of the European part of the USSR. V. V. Fedorenko reported on the "Consideration of the climate of the Maritime Climate Which Includes the Operation of Solar Power Plants". M. B. Adilovskiy reported on "The Wind Energy Reserves in the Prichernomorskiy Steppes". V. S. Samoylovskiy submitted extensive climatic characteristics for sea altitudes and handbooks. A. I. Sorokin reported on the use of climatic data for the direct estimates of the wind and wave conditions on the sea and oceans. R. I. Ivanov gave a survey of the loads of and requirements made of marine climatology for the security of sea navigation.

3(7), 3(3)

AUTHORS:

TITLE:

PERIODICAL:

ABSTRACT:

Card 1/4

Card 2/4

Card 3/4

VATLETSOV, D.; SHCHETKIN, S.

On the path of technological progress. Sov. profsoiuzy 6 no.6:34-35
Je '58. (MIRA 11:7)
(Automobile industry) (Automation)

POPKOV, A.; VATLETISOV, V.

On the "Novyi put'" Collective Farm. Veon.zran. 37 no.4:18 Ap
'61. (MIRA 14:4)

1. Zamestitel' predsedatelya Kirovskogo oblastnogo komiteta
Dobrovol'nogo obshchestva sodeystviya armii, aviatsii i flotu (for
Popkov). 2. Instruktor oblastnogo komiteta Dobrovol'nogo obshchestva
sodeystviya armii, aviatsii i flotu, g.Kirov (for Vatletsov).

(Khalturin District--Military education)

VATLETSOV, V., instruktor

Patrushev and his club. Radio no.5:16 My '62. (MIRA 15:5)

1. Kirovskiy gorodskoy komitet Dobrovol'nogo obshchestva
sodeystviya armii, aviatsii i flotu.
(Kirov---Radio clubs)

KORZINKINA, Z.; VATLETISOV, V.; MEYLAKHS, M., master sporta; BOROVIKHIN, D.

Facts, events, people. Kryl. rod. 16 no.9:18-19 S '65.
(MIRA 18.12)

1. Obshchestvennyy instruktor Kirovskogo oblastnogo komiteta
Vsesoyuznogo dobrovol'nogo obshchestva sodeystviya armii,
aviatsii i flotu SSSR (for Vatlletsov). 2. Zamestitel'
nachal'nika Tsentral'nogo doma aviatsii i kosmonavtiki (for
Borovikhin).

VATLETSON, V.

A society trainer, a head of a school. Voem. znan. 40 no.12:
39 D *62 (MIRA 18:1)

1. Zamestitel' zaveduyushchego vneshtatnym otделom Kirovskogo
gorodskogo komiteta Vsesoyuznogo dobrovol'nogo obshchestva
sodeystviya armii, aviatsii i flotu SSSR.

AMAGLOBELI, O.; VATLETSOV, V., ofitser zapasa (Kirov)

Letters to the editor. Voen. znan. 39 no. 4:22 Ap '63.
(MIRA 16:6)

1. Predsedatel' gorodskogo komiteta Dobrovol'nogo obshchestva
sodeystviya armii, aviatsii i flotu, Batumi (for Amaglobeli).
(Military education)

GULYANSKIY, L., uchitel' (g. Chernovtsy, Ukrainskaya SSR); VATLIN, G.;
KUZ'MIN, M., uchastkovyy terapevt (g. Orekhovo-Zuyevo,
Moskovskoy oblasti); MATVEYEVA, N.; STARKOV, A., inzh.
(Simferopol'); MAKAROV, V., inzh. (Simferopol'); MIL'KO, S.;
OKOS'YAN, K.

Letters to the editor. Zhil.-kom. khoz. 12 no.5:22-23 My '62.
(MIRA 15:10)

1. Zaveduyushchiy Gorodskim upravleniyem kommunal'nogo khoz-
yaystva, Arkhangel'sk (for Vatlin). 2. Upravlyayushchiy domovoi
10-go domoupravleniya Nakhimovskogo rayona, Sevastopol' (for
Matveyeva).

(Municipal services)

VATIAN, L. L., RATHER, E. A., ZALISSEKAYA, E. V., TOBEMNEKOVA, O. V. and PULINSON, F. V.
Moscow Institute for the Scientific Investigation of Tuberculosis Fluorographic examination
of school-children in the Dzerzhin quarter of Moscow Problems of Tuberculosis, Moscow
1949, 3 (69-70) Tables I

In 1946/47 seven schools with 7,195 children were examined fluorographically. 7,164
children were examined (98.6%) aged 7 to 18 years and 397 (5.59%) proved roentgen-
ographically suspect after repeated examination. These were all hospitalized. On
clinical examination it was found that 70 had various non-specific disorders of the chest,
generally (48) remnants of pneumonia; 185 had remnants of specific infection,
(calcifications 56, calcified primary complexes 129); 82 had inactive specific lesions and
60 (0.84%) had active lesions. The examination was especially useful in finding schools
with high tuberculosis rates. The Pirquet and Mantoux tests were positive in all but
three of the roentgen+ children.

Van der Molen-Terwolde(XV,4,14)

SO: Medical Microbiology and Hygiene, Section IV, Vol 3, No 1-6

LANDAU, L.G., arkhitektor; VATMAN, Ya. P., arkhitektor

Industrywide standardization is the basis of further improvement
in the assortment of precast reinforced concrete articles. Prom.
stroil. 39 no.4:46-48 '61. (MIRA 14:6)

1. Moskovskiy institut tipovogo proyektirovaniya i tekhnicheskikh
issledovaniy. (Reinforced concrete--Standards)

VASIL'YEV, B.F., inzh.; VATMAN, Ya.P., arkhitektor

Some recommendations for unifying three-dimensional and structural designs for industrial buildings and structures.

(MIRA 17:11)

Prom. stroi. 41 no.8:41-43 Ag '64.

1. TSentral'nyy nauchno-issledovatel'skiy i proyektno-eksperimental'nyy institut promyshlennykh zdaniy i sooruzheniy.

VATMAN, Ya.P., arkhiteklor; LANDAU, L.G., arkhiteklor

Problems in using unified standard sections of industrial buildings.
Prom. stroi. 42 no.3:6-10 '65. (MIRA 18:7)

1. Tsentral'nyy nauchno-issledovatel'skiy i proyektno-eksperi-
mental'nyy institut promyshlennykh zdaniy i sooruzheniy.

VATNIK, B., starshiy master

Preparing for a diploma. Prof...tekh. obr. 20 no.8:23-24 2g
'63. (MIRA 16:9)
(Electric welding--Study and teaching)

Vatnik, I. M., jt au.

Technology of beet sugar manufacture in problems and examples Kiev, Izd-vo, Narkomvnutorga, 1935. 190 p.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100

1ST AND 2ND COUSINS

PROCESSES AND PROPERTIES INDEX

23

Volumetric determination of reducing substances in presence of methylene blue as indicator. I. M. Yatsuk. *Sukkar* 10, No. 2, 9-11 (1930); *Chemie & industrie* 41, 750.

The method is based on the fact that under the action of a reducing agent in alk. soln. methylene blue loses a chromophore group and is converted into a colorless leuco compound. Fehling's soln. is used for the titration. In 100 cc. of liquid, with 2 min. boiling and a consumption of 1.30 cc. of Fehling's soln., the reducing power of 5 g. of sucrose is equal to that of 10 mg. of invert sugar.

A. Papineau-Contur.

COMMON ELEMENTS

COMMON SYMBOLS

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100

1ST AND 2ND COUSINS

PROCESSES AND PROPERTIES INDEX

23

Volumetric determination of reducing substances in presence of methylene blue as indicator. I. M. Yatsuk. *Sukkar* 10, No. 2, 9-11 (1930); *Chemie & industrie* 41, 750.

The method is based on the fact that under the action of a reducing agent in alk. soln. methylene blue loses a chromophore group and is converted into a colorless leuco compound. Fehling's soln. is used for the titration. In 100 cc. of liquid, with 2 min. boiling and a consumption of 1.30 cc. of Fehling's soln., the reducing power of 5 g. of sucrose is equal to that of 10 mg. of invert sugar.

A. Papineau-Contur.

COMMON ELEMENTS

COMMON SYMBOLS

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100

1ST AND 2ND COUSINS

PROCESSES AND PROPERTIES INDEX

23

Volumetric determination of reducing substances in presence of methylene blue as indicator. I. M. Yatsuk. *Sukkar* 10, No. 2, 9-11 (1930); *Chemie & industrie* 41, 750.

The method is based on the fact that under the action of a reducing agent in alk. soln. methylene blue loses a chromophore group and is converted into a colorless leuco compound. Fehling's soln. is used for the titration. In 100 cc. of liquid, with 2 min. boiling and a consumption of 1.30 cc. of Fehling's soln., the reducing power of 5 g. of sucrose is equal to that of 10 mg. of invert sugar.

A. Papineau-Contur.

COMMON ELEMENTS

COMMON SYMBOLS

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100

1ST AND 2ND COUSINS

PROCESSES AND PROPERTIES INDEX

23

Volumetric determination of reducing substances in presence of methylene blue as indicator. I. M. Yatsuk. *Sukkar* 10, No. 2, 9-11 (1930); *Chemie & industrie* 41, 750.

The method is based on the fact that under the action of a reducing agent in alk. soln. methylene blue loses a chromophore group and is converted into a colorless leuco compound. Fehling's soln. is used for the titration. In 100 cc. of liquid, with 2 min. boiling and a consumption of 1.30 cc. of Fehling's soln., the reducing power of 5 g. of sucrose is equal to that of 10 mg. of invert sugar.

A. Papineau-Contur.

COMMON ELEMENTS

COMMON SYMBOLS

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100

1ST AND 2ND COUSINS

PROCESSES AND PROPERTIES INDEX

23

Volumetric determination of reducing substances in presence of methylene blue as indicator. I. M. Yatsuk. *Sukkar* 10, No. 2, 9-11 (1930); *Chemie & industrie* 41, 750.

The method is based on the fact that under the action of a reducing agent in alk. soln. methylene blue loses a chromophore group and is converted into a colorless leuco compound. Fehling's soln. is used for the titration. In 100 cc. of liquid, with 2 min. boiling and a consumption of 1.30 cc. of Fehling's soln., the reducing power of 5 g. of sucrose is equal to that of 10 mg. of invert sugar.

A. Papineau-Contur.

COMMON ELEMENTS

COMMON SYMBOLS

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100

1ST AND 2ND COUSINS

PROCESSES AND PROPERTIES INDEX

23

Volumetric determination of reducing substances in presence of methylene blue as indicator. I. M. Yatsuk. *Sukkar* 10, No. 2, 9-11 (1930); *Chemie & industrie* 41, 750.

The method is based on the fact that under the action of a reducing agent in alk. soln. methylene blue loses a chromophore group and is converted into a colorless leuco compound. Fehling's soln. is used for the titration. In 100 cc. of liquid, with 2 min. boiling and a consumption of 1.30 cc. of Fehling's soln., the reducing power of 5 g. of sucrose is equal to that of 10 mg. of invert sugar.

A. Papineau-Contur.

COMMON ELEMENTS

COMMON SYMBOLS

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51

VATNIK, P.A.

Use of test symbols in checking memory systems. Trudy
LIEI no.55:15-22 '65.

Optimum control of stocks in measuring consumption
according to a random law. Ibid.:46-60

(MIRA 18:11)

FRIDMAN, Ya., mayor; VARGOLIN, D., kapitan

A new step in the theoretical training of officers. Koms.
Vooruzh. Sil 4 no.15:71-74 Ag '64.

(HHA 17:10)

VATOLIN
MUSHIN, A.Z., red.; VATOLIN, G.N., vedushchiy red.; MUKHINA, E.A., tekhn.red.

[Hydraulic fracturing of strata; prize winning papers] Gidravli-
cheskii razryv plasta; po materialam konkursa. Moskva, Gos.
nauchno-tekhn. izd-vo nef. i gorno-toplivnoi lit-ry, 1957. 64 p.
(MIRA 11:2)

1. Nauchno-tekhnicheskoye obshchestvo neftyanoy promyshlennosti
(Petroleum engineering)

ZAKHARCHUK, Zakhr Ivanovich; MASICH, Vladimir Ivanovich; VATOLIN, G.N.,
vedushchiy red.; VORONOVA, V.V., tekhn. red.

[Packers and anchors; design and use] Pakery i iakori, konstruktсии
i oblasti primeneniia. Moskva, Gos.nauchno-tekhn.izd-vo نفت.i gorno-
toplivnoi lit-ry, 1961. 78 p. (MIRA 14:12)
(Oil wells—Equipment and supplies)

MURAV'YEV, Ivan Mikhaylovich; ABDULIN, Fuat Salakh'yanovich; VATOLIN,
G.N., ved. red.; STAROSTINA, L.D., tekhn. red.

[Completion and study of injection wells as exemplified by
the industry of Bashkiria] Osvoenie i issledovanie nagnetatel'-
nykh skvazhin; na primere promyshlennosti Bashkiri. Moskva,
Gostoptekhizdat, 1963. 155 p. (MIRA 16:5)
(Bashkiria—Oil reservoir engineering)

KOVALEV, Aleksandr Georgiyevich; VATOLIN, G.N., vedushchiy red.; FEDOTOVA,
I.G., tekhn. red.

[Corrosion control in oil wells] Bor'ba s korroziei neftiannykh skva-
zhin v SSHA. Moskva, Gos.nauchno-tekhn. izd-vo nef. i gorno-
toplivnoi lit-ry, 1959. 42 p. (MIRA 14:6)
(Condensate oil wells)

BEREZHNOY, Aleksandr Ivanovich; BULATOV, Anatoliy Ivanovich; KULAGIN,
Pavel Grigor'yevich; VATOLIN, G.N., ved. red.; VORONOVA, V.V.,
tekhn. red.

[Plastics in petroleum and gas industries] Plastmassy v neftianoi
i gazovoi promyshlennosti. Moskva, Gostoptekhizdat, 1962. 168 p.
(MIRA 15:7)

(Petroleum engineering---Equipment and supplies)
(Plastics)

PESLYAK, Yuriy Apollinariyevich; RUPPENYI, Konstantin Vladimirovich, doktor tekhn.nauk; VATOLIN, G.N., ved.; FEDOTOVA, I.G., tekhn.red.

[Theory of rock pressure and the method of designing casing pipes]
Teoriia davleniia gornyykh porod i metod rascheta obsadnykh trub.
Moskva, Gos. nauchno-tekhn. izd-vo nef. i gorno-toplivnoi lit-ry,
1961. 130 p. (Vsesoiuznyi neftegazovyi nauchno-issledovatel'skii
institut. Trudy, no.31) (MIRA 14:7)
(Oil well casing) (Rock pressure)

PISARIK, Mikhail Nikolayevich; VATOLIN, G.N., ved. red.; POLOSINA, A.S.,
tekhn. red.

[Exploitation of strippers by remote control in the Andizhan oil
field] Eksploatatsiya malodebitnykh skvazhin na dispetcheri-
zirovannom neftepromysle Andizhan. Moskva, Gos. nauchno-tekhn.
izd-vo nef. i gorno-toplivnoi lit-ry, 1961. 87 p.

(MIRA 15:3)

(Andizhan region--Oil fields--Production methods)
(Remote control)

MAMUNA, Vladimir Nikolayevich; TREBIN, Garol'd Fomich; UL'YANINSKIY, Boris Vladimirovich; VATOLIN, G.N., ved. red.; MUKHINA, E.A., tekhn. red.

[Deep samplers and their use] Glubinnye probotborniki i ikh primeneniye. Moskva, Gos. nauchno-tekhn. izd-vo nef. i gorno-toplivnoi lit-ry, 1961. 156 p. (MIRA 14:9)
(Oil field brines--Analysis)

GEYMAN, M.A., kand. tekhn. nauk, red.; TOPCHIEV, A.V., akademik, red.;
VATOLIN, G.N., vedushchiy red.; FEDOTOVA, I.G., tekhn. red.

[Reports of the International Petroleum Congress, 5th. New York, 1959] Doklady V Mezhdunarodnogo neftianogo kongressa, New York, 1959. Moskva, Gos. nauchno-tekhn. izd-vo neft. i gorno-toplivnoi lit-ry. Vol.2. [Oil well drilling and the production of oil and gas] Burenie skvazhin i dobycha nefti i gaza. Pod red. M.A.Geimana. 1961. 230 p. (MIRA 14:9)

1. International Petroleum Congress, 5th. New York, 1959.
(Oil fields—Production methods)

TKHOSTOV, Batraz Agubegirovich; VATOLIN, G.N., vedushchiy red.;
TROFIMOV, A.V., tekhn.red.

[Initial formation pressures in oil and gas fields] Nachal'nye
plastovye davleniia v neftiannykh i gazovykh mestorozhdeniakh.
Moskva, Gos.nauchno-tekhn.izd-vo nef. i gorno-toplivnoi lit-ry,
1960. 105 p. (MIRA 13:6)
(Oil reservoir engineering)

CHZHAN GEN [Chang, Keng]; CHZHEN TSIN-DA [Cheng Ch'ing-ta]; ZABARINSKIY, P.P.,
prof., ~~VATOLIN~~, G.M., vedushchiy red.; TROFIMOV, A.V., tekhn.red.

[Oil and natural gas fields in the Chinese People's Republic]
Neftianye i gazovye mestorozhdeniya Kitaiskoi Narodnoi Respubliki;
Kratkii obzor. Perevod s kitaiskogo, pod obshchey red. P.P.Zabarin-
skogo. Moskva, Gos.nauchno-tekhn.izd-vo neft. i gorno-toplivnoi
lit-ry, 1958. 110 p. (MIRA 11:3)
(China--Gas, Natural) (China--Oil fields)

TITKOV, Nikolay Iosifovich; DON, Nikolay Semenovich; VATOLIN, G.N.,
vedushchiy red.; FEDOTOVA, I.G., tekhn.red.

[Techniques of oil well cementing] Tekhnologiya tsementiro-
vaniia neftianyykh skvazhin. Moskva, Gos.nauchno-tekhn.izd-vo
neft. i gorno-toplivnoi lit-ry, 1960. 229 p. (MIRA 13:9)
(Oil well cementing)

BAKULIN, Vladimir Georgiyevich; KURASHEV, V.A., redaktor; ~~VATOLIN, G.N.~~
vedushchiy redaktor; KHLKBNIKOVA, L.A., tekhnicheskii redaktor

[Experience in introducing progressive work methods in oil well
drilling] Opyt vnedreniya peredovykh metodov truda v burenii.
Moskva, Gos.nauchno-tekhn.izd-vo neft. i gorno-toplivnoi lit-ry,
1957. 50 p. (MLRA 10:9)
(Oil well drilling)

V.D. GOLIN, G.N.
PYKHACHEV, Georgiy Borisovich; YEVDOKIMOVA, V.A., prepodavatel' kafedry
dotsent, kandidat tekhnicheskikh nauk, retsenzent; BORISOV, Yu.P.,
kandidat tekhnicheskikh nauk, retsenznet; VATOLIN, G.N., vedushchiy
redaktor; POLOSINA, A.S., tekhnicheskiy redaktor

[Collection of problems for the course "Underground Hydraulics."]
Sbornik zadach po kursu "Podzemnaya gidravlika." Moskva, Gos.
nauchno-tekhn. izd-vo neft. i gorno-toplivnoi lit-ry, 1957. 80 p.
(MLRA 10:7)

1. Kafedra "Obshchey i podzemnoy gidravliki" Moskovskogo neftyanogo
instituta im. akad. I.M.Gubkina (for Yevdokimov, Borisov)
(Hydraulics--Problems, exercises, etc.)
(Petroleum engineering)

SAVINA, Z.A., vedushchiy red.; PETROVA, Ye.A., vedushchiy red.;
VATOLIN, G.N., vedushchiy red.; KAYESHKOVA, S.M., vedushchiy
red.; POLOSINA, A.S., tekhn.red.

[Completion of offshore fields; materials] Osvoenie morskikh
neftianykh mestorozhdenii; materialy. Moskva, Gos.nauchno-tekhn.
izd-vo neft. i gorno-toplivnoi lit-ry, 1960. 320 p.

(MIRA 14:2)

1. Vsesoyuznoye soveshchaniye po osvoyeniyu morskikh neftyanykh
mestorozhdeniy.

(Oil well drilling, Submarine)

SHEYNMAN, Aleksandr Borisovich; SERGEYEV, Aleksandr Ivanovich;
MALOFEYEV, Guriy Yevdokimovich; AMIYAN, V.A., red.; VATOLIN,
G.N., ved. red.; VORONOVA, V.V., tekhn. red.

[Electric heat treatment of oil well bore zones]Elektroteplo-
vaia obrabotka prizaboinoi zony neftiannykh skvazhin. Moskva,
Gostoptekhhizdat, 1962. 98 p. (MIRA 15:5)
(Oil fields--Production methods)

BAYDYUK, Bronislav Vasil'yevich; VATOLIN, G.N., ved. red.;
POLOSINA, A.S., tekhn. red.

[Mechanical properties of rocks at high pressures and
temperatures] Mekhanicheskie svoistva gornyykh porod pri
vysokikh davleniyakh i temperaturakh. Moskva, Gostop-
tekhizdat, 1963. 101 p. (MIRA 16:10)
(Rocks—Testing)

DUBININ, E.L.; YESIN, O.A.; VATOLIN, N.A.

Magnetic susceptibility of liquid metal ~~alloy~~: Fiz. Met.
i metalloved. 12 no.5:763-764 N '61. (MIRA 14:12)

1. Institut metallurgii Ural'skogo filiala AN SSSR.
(Liquid metals---Magnetic properties)

OKUNEV, A.I.; KUSAKIN, P.S.; VATOLIN, N.A.; KOLMOGOROV, B.A.; ZAMORIN, L.N.

Obtaining metallic nickel directly from a liquid matte.

Trudy Inst. met. UFAN SSSR no.8:75-82 '63.

(MIRA 17:9)

L 32241-65

EXTENT OF REPRODUCTION

ACCESSION NR: AR5004768

S/0137/64/000/010/A006/A006

SOURCE: Ref. zh. Metallurgiya, Abs. 10A37

AUTHOR: Vostryakov, A. A.; Vatolin, N. A.; Ignatenko, G. F.

TITLE: Ductility of aluminum-chromium alloys

CITED SOURCE: Tr. 1-y Sverdlsk. nauchno-tekhn. konferentsii molodykh uchenykh. Ch. 1. Sverdlovsk, 1964, 13-16

TOPIC TAGS: metal ductility, aluminum base alloy, chromium containing alloy, activation energy

TRANSLATION: The ductility of aluminum and its alloys containing up to 50% chromium was measured. Ductility increases by 2-3 times with an increase in the chromium content of the alloy up to 30%. Ductilities are especially great with low temperature superheating above the liquidus line. In the range of chromium concentrations under consideration the activation energy increases. The greatest observed change in activation energy is noted during a change in chromium concentration from 10 to 20%. A further increase in

Card 1/2

L 32241-65

ACCESSION NR: AR5004768

chromium concentration does not change activation energy. An increase in activation energy in a given region indicates that an increase in the strength of the bond between atoms occurs in the melt. 15 literature titles. D. Kashayeva.

SUB CODE: MM

ENCL: 00

Card 2/2

VOSTRYAKOV, A.A.; VATOLIN, N.A.; YESIN, O.A.

Viscosity and electric resistance of manganese alloys with silicon,
iron, and carbon. Zhur. neorg. khim. 9 no.8:1911-1914 Ag '64.
(EIRA 17:11)

S/180/62/000/003/014/016
E193/E383

AUTHORS: Vatolin, N.A. and Kisling, R. (Sverdlovsk-Stockholm)

TITLE: X-ray investigation of the pseudo-ternary WC-TiC-TaC and pseudo-quaternary WC-TiC-TaC-NbC systems

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye tekhnicheskikh nauk. Metallurgiya i toplivo, no. 3, 1962, 102 - 106

TEXT: The solid-solubility limit of WC in WC-TiC-TaC and WC-TiC-TaC-NbC alloys at 1 420 and 1 600 °C was investigated. The experimental specimens were prepared by sintering powder compacts, made from pure carbide mixtures which contained 3-73% WC, 4-50% TiC and 8-88% TaC with or without addition of 20% NbC; 3% Co was added to each mixture to facilitate alloying. Sintering was conducted in vacuum, the holding time being 6-7 h; two specimens of each alloy were prepared and sintered at 1 420 and 1 600 °C, respectively. The constitution of various alloys was determined by X-ray diffraction analysis and the results are reproduced in Fig. 1, showing the solid-solubility boundaries in the WC-TiC-TaC (graph a) and WC-TiC-TaC-NbC

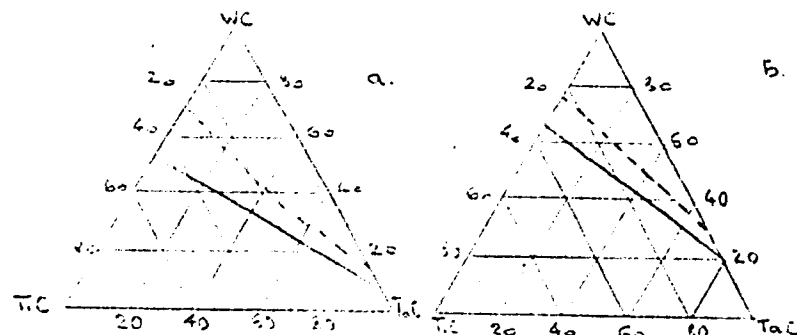
Card 1/2

X-ray investigation

S/180/62/000/003/014/016
E193/E383

(graph 5) systems, the continuous and broken curves representing, respectively, the limits of solubility of WC at 1 420 and 1 600 °C. The main conclusion reached was that an addition of 20% NbC increases the solid-solubility limit of WC in the WC-TiC-TaC system at both temperatures studied. There are 4 figures and 3 tables.

SUBMITTED: October 9, 1961



Card 2/2

Fig. 1:

VATOLIN, N.A. (Sverdlovsk); YESIN, O.A. (Sverdlovsk); ABRAMOV, B.A.
(Sverdlovsk)

Investigating iron-vanadium melts by the electromotive force
method. Izv.AN SSSR. Otd.tekh.nauk. Met.i topl. no.4:51-55
Jl-Ag '62. (MIRA 15:8)
(Iron-vanadium alloys--Electric properties)

DUBININ, E.L.; YESIN, O.A.; VATOLIN, N.A.

High-temperature melts of binary and pseudobinary systems on
the basis of iron and manganese. Zhur.neorg.khim. 7 no.12:2778-
2781 D '62. (MIRA 16:2)

(Iron-manganese alloys)

BUBININ, E.L.; YESIN, O.A.; VATOLIN, N.A.

Magnetic susceptibility of certain liquid alloys depending on carbon concentration. Fiz. met. i metalloved. 14 no.290-293 Ag' 62.
(MIRA 15:12)

1. Institut metallurgii Ural'skogo filiala Akademii nauk SSSR.
(Liquid metals—Magnetic properties)

S/126/62/014/004/016/017
E039/E435

AUTHORS: Dubinin, E.L., Yesin, O.A., Vatolin, N.A.

TITLE: Investigation of the magnetic susceptibility of Fe-Si, Fe-P, Mn-Si at high temperatures

PERIODICAL: Fizika metallov i metallovedeniye, v.14, no.4, 1962, 589-594

TEXT: As comparatively little work has been done on investigating the change in magnetic susceptibility χ_g at temperatures well above the paramagnetic Curie point Θ_p for metals melting at 1300 to 1500°C, the dependence is studied in both the solid and liquid state of χ_g on temperature for the above alloys and for the steel X18H9T (Kh18N9T) (0.08% C, 0.45% Si, 0.83% Mn, 0.018% P, 0.015% S, 17.78% Cr, 9.98% Ni, 0.56% Ti) and Г13Л (G13L) (1.14% C, 0.73% Si, 11.80% Mn, 0.090% P, 0.011% S, 0.17% Cr, 0.18% Ni). The experimental method is as described in an earlier paper by the same authors. Armco iron, electrolytic manganese, crystalline silicon and ferro-phosphorus are used in preparing the alloys. Values of χ_g for Kh18N9T steel vary from 15.5×10^6 at 968°C to 13.8×10^6 at 1558°C and in the case of G13L steel from Card 1/2

Investigation of the magnetic ...

S/126/62/014/004/016/017
E039/E435

23.6×10^6 at 687°C to 15.5×10^6 at 1537°C . Curves showing the dependence of χ_g on composition at constant temperature have discontinuities at the points where the composition is equivalent to FeSi, Fe_2P and MnSi for the respective alloys. In general, the value of χ_g falls with increasing concentration of P and Si, although in the case of Fe-Si a maximum value of 45×10^6 for χ_g is obtained for $\sim 9\%$ Si (1200°C) falling to $\sim 3 \times 10^6$ for 50% Si. The temperature dependence of $1/\chi_g$ is represented in each case by two straight lines corresponding to the solid and liquid states, showing that the Curie-Weiss law is obeyed in both conditions; different values of Θ_p are obtained for each state. In addition, the magnetic moment falls with increasing concentration of Si due to the strengthening of the covalent bonds. These results, which are in general agreement with those of other authors, provide additional information on the structure of these alloys and the nature of the intermolecular interactions. There are 4 figures and 3 tables.

ASSOCIATION: Institut metallurgii UFAN SSSR (Institute of Metallurgy
SUBMITTED: May 9, 1962 UFAN USSR)
Card 2/2

DUBININ, E.L.; YESIN, O.A.; VATOLIN, M.A.

Effect of electromagnetic forces on the removal of nonmagnetic inclusions in liquid iron. Fiz.met.1 metalloved. 14 no.6:935-936 D '62. (MIRA 16:2)

1. Institut metallurgii Ural'skogo filiala AN SSSR.
(Steel--Inclusions) (Electromagnetism)

LEPINSKIY, B.M.; VATOLIN, N.A.

Surface tension and density of iron-sulfur and iron-phosphorus melts. Inzh.-fiz. zhur. 6 no.7:109-112 J1 '63. (1963)

1. Institut metallurgii Ural'skogo filiala AN SSSR, Sverdlovsk.
(Iron alloys—Density) (Surface tension)

S/126/65/015/002/010/055
E195/E385

AUTHORS: Vatolin, N.A., Vostryakov, A.A. and Yesin, O.A.

TITLE: Viscosity of liquid iron-carbon alloys

PERIODICAL: Fizika metallov i metallovedeniye, v. 15, no. 2,
1963, 222 - 228

TEXT: The method of attenuation of torsional oscillations of a crucible containing the molten alloy was used to determine the effect of composition and temperature on the viscosity of iron-carbon alloys. The experimental materials contained up to 5% C and the tests were conducted at 1270 to 1720 °C. The results (side-by-side with those obtained by other workers) are reproduced in Fig. 2, where the viscosity ($\eta \times 10^5$ poise) is plotted against the C content of the alloy, the various curves relating to data obtained by: 1-Barfield and Kitchener (J. Iron and Steel Inst., 1955, 4, 324); 2-Turovskiy and Lyubimov (Izv. vuzov, Chernaya metallurgiya, 1960, no. 2, 15); 3-Wen Li-Shih and Arsent'yev (Izv. vuzov, Chernaya metallurgiya, 1961, no. 7, 5); 4-Thielman and Wimmer (Stahl. u. Eisen, 1927, 47, 389); 5 to 8 - the present authors in tests at 1500, 1550, 1600 and 1650 °C ;
Card 1/5

S/126/63/015/002/010/033
E193/E385

Viscosity of

curve 9 represents the concentration-dependence of the free volume ($\text{cm}^3/\text{g.at.}$, right-hand scale) of the alloy. It will be seen that at each test temperature η sharply decreases as the C content increases from 0 to 0.2%, remaining practically constant in the 0.2 to 2.2% C range and then decreasing again. Although the variation in η qualitatively follows the concentration-dependence of the free volume of the alloy, there is no quantitative agreement. This and other considerations led the present authors to the conclusion that the shape of the viscosity isotherms of iron, carbon and other alloys could not be explained by the free-volume of the liquid increasing with increasing carbon content, and that the specific change in the energy of the atomic interaction, brought about by increasing the carbon content in the melt, was of much greater importance. There are 2 figures and 1 table.

ASSOCIATION: Institut metallurgii UFAN SSSR (Institute of Metallurgy, UFAN, USSR)

SUBMITTED: July 11, 1962

Card 2/3